Abstract

A system and method for analyzing an image. The system may comprise a computer which includes a CPU and a memory medium which is operable to store one or more programs executable by the CPU to perform the method. The method may include: 1) receiving data describing an n-dimensional image, wherein the image is defined in a bounded n-dimensional space, wherein the image is embedded in an m-dimensional real space via an embedding function $x()$, and wherein $m > n$; 2) determining a diffeomorphism (f,g) of the n-dimensional space; 3) computing the inverse transform (f^{-1}, g^{-1}) of the determined diffeomorphism (f,g); 4) selecting a plurality of points in the n-dimensional space; 5) mapping the plurality of points onto the image using $x(f^{-1}, g^{-1})$ thereby generating a mapped plurality of points on the image; and 6) analyzing the mapped plurality of points to determine characteristics of the image.